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TITLE : ADDITIVE FOR CAST IRON

ABSTRACT : PURPOSE: To provide an additive for cast iron to manufacture vermiculite graphite cast iron of pearlite matrix easily and constantly, by using specific ratios by wt. of Ca, Mg, rare earth elements, Fe, Zr, Ti, Sb, Si.

CONSTITUTION: The additive contains 1~10wt% Ca, 2~10wt% Mg,  $\leq 3$ wt% rare earth elements,  $\leq 30$ wt% Fe, one or more members among 1~15wt% Zr, 1~10wt% Ti, 1~10wt% Sb, the total number of elements contained being  $\leq 20$ , and the balance being Si. The additive is manufactured by using Ca-Si independently, Fe-Si independently, or a mixture of Ca-Si with Fe-Si, or a mixture of Ca-Si with Fe-Si-Mg as aggregate. Mg or rare earth elements are used as fluoride flux on the surface of the aggregate, in addition, other components are used as coating material on the surface of the aggregate in the forms of compound, silicide alloy, or iron alloy. The particle diameter is  $\leq 20$ mm, preferably 1~20mm.

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